



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/641,595	08/18/00	ZIMMER M	JFH-A12898US

024314 IM22/1023
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EXAMINER
PARKER, F

ART UNIT	PAPER NUMBER
1762	

DATE MAILED: 10/23/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/641,595

Applicant(s)

Examiner

Group Art Unit

— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☒ Responsive to communication(s) filed on 4/27/01
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 111; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 11-25 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 11-25 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☐ The specification is objected to by the Examiner.
- ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☒ All ☐ Some* ☐ None of the:

☒ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____

☐ Copies of the certified copies of the priority documents have been received

in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Oath/Declaration

2. Receipt is acknowledged of papers filed under 35 U.S.C. 119 (a)-(d) based on an application filed in Germany on 3/9/99. Applicant has not complied with the requirements of 37 CFR 1.63(c), since the oath or declaration is inconsistent with the foreign application on the request for corrected filing receipt of 11/09/00. A new oath or declaration may therefore be required in the body of which the present application should be correctly identified by application number and filing date.

Claim Objections

3. Claims 14,15,21,23 are objected to because of the following informalities:
(1) claims 14,15,21: the term "thermoplastic" should be inserted before "material" for consistency and clarity. (2) in claim 23, it is unclear if the entire

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phrase beginning "-following the..." is a step or preamble. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 11,14,16,18, 21,22,24,25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 11 is vague and indefinite because it is unclear under what conditions the bond is permanent since no material maintains permanent stability under all conditions.

- Claims 14,16 are vague and indefinite because the term "malleable", which conventionally means "capable of being formed, or shaped, as by pressure or hammering", is confusing since no pressure or hammering to form or shape is required by the claims.

- Claims 18, 21,22,24,25: "surface" lacks proper antecedent basis.

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- Claim 18 is vague and indefinite because it is unclear if the heated surface and surface to be printed are the same or different.
- Claims 21-22 are vague and indefinite because it is unclear how toner "is brought to the reactive state", and it is noted claim 11 never requires toner to be in a reactive state.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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8. Claims 11-17,20-21,23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Kuehnle et al US 4510225 in view of GB 1 264 494.

Kuehnle et al teaches a method for producing prints on a heat softenable thermoplastic layer on opaque substrates, in which the outer surface of the layer is selectively heat softened to a tacky state ("reactive state") and then contacted with a toner image on a carrier such that the toner completely adheres to the tacky surface (col. 9, 1-26). The toner image is applied onto the carrier 100 by electrostatic electrophotographic means described on column 8, 26-61 which is the same as Applicants' "electrographic means". A reheating step causes the toner image to become imbedded into the layer (col. 9, 27-36), in accordance with claim 24. A cooling step is taught on column 9, 55-57, per claim 23 which would cause hardening. The use of thermoplastic color toner is not explicitly cited.

GB 1 264 494 discloses a similar electrophotographic printing process for applying toner onto a softened thermoplastic substrate so that the toner image penetrates and becomes fixed to the surface of the substrate, the particle toner comprising a pigment and thermoplastic binder (page 1, 12-20 & 62-84).

Although it is unclear what is meant by Applicants' use of "malleable state", since the heat softened thermoplastic resin would be "malleable" in the

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conventional meaning of the word, the references meet the limitations of claims 14 and 16. As to claim 15, both references teach the thermoplastic layer must be sufficiently heat softened to cause imbedding of the toner image, so that the thermoplastic would necessarily be in a "fluid state". Per claim 21, it would have been apparent that since the toner contains a thermoplastic, the heating would have caused softening ("reactive state") of at least the surface of the toner. Per claim 25, use of similar thermoplastic materials for layer and toner particles would have been an obvious variation to allow them to have similar thermal properties, that is degrees of tackiness during printing, as well as thermal expansion characteristics during subsequent heating and cooling steps.

Both references deal with similar processes for applying toner images onto thermoplastic substrates using an electrophotographic printing process.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the process of Kuehnle et al using the toner comprising a pigment and thermoplastic binder of GB 1 264 494 because of the expectation of forming colored images on the thermoplastic layer.

9. Claims 18, 19, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Kuehnle et al US 4510225 in view of GB 1 264 494 and further in view of Silvis et al US 5629050.

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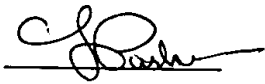
Kuehnle et al and GB 1 264 494 are cited for the same reasons above, which are incorporated herein. Processing the objects to be printed by thermal molding is not cited. However, column 7, lines 56-61 teaches that thermoplastic materials may be fabricated by "thermal processing techniques" including molding, which may then be subsequently coated. Given these general teachings, it would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the process of Kuehnle et al using the toner of GB 1 264 494 and printing the toner on thermoplastic articles formed by thermal molding as taught by Silvis et al because of the expectation of forming colored images on the molded thermoplastic.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred J. Parker whose telephone number is (703) 308-3474.



Fred J. Parker

**FRED J. PARKER
PRIMARY EXAMINER**

October 10, 2001

9-641595